

What is claimed is:

1. A color filter array having a red filter layer on a substrate

wherein the red filter layer comprises

5 a xanthene dye having its absorption maximum at a wavelength of 500 to 600 nm, and

a pirazolone azo dye having its absorption maximum at a wavelength of 400 to 550 nm; and

has a transmittance at a wavelength of 535 nm of 1% or less and that at 650 nm of 90% or more.

2. The color filter array having a red filter layer on a substrate according to claim 1,

wherein the red filter layer further comprises a pyridone azo dye having its absorption maximum at a wavelength of 400 to 500 nm, and has a transmittance of 5% or less at 450 nm.

3. A process for producing a color filter array having a red filter layer on a substrate

which comprises the step of patterning a photosensitive resin composition comprising

a xanthene dye having its absorption maximum at a wavelength of 500 to 600 nm, and

a pirazolone azo dye having its absorption maximum at a wavelength of 400 to 550 nm; and

to form the red filter layer having a transmittance at a at a wavelength of 535 nm of 1% or less and that at 650 nm of 90% or more.

4. The photosensitive resin composition which

comprises a pyridone azo dye having its absorption maximum at a wavelength of 400 to 500 nm, and which enables to produce a red filter layer having a transmittance of 5% or less at 450 nm.

5 5. The photosensitive resin composition which comprises a xanthene dye having its absorption maximum at a wavelength of 500 to 600 nm, and a pirazolone azo dye having its absorption maximum at a wavelength of 400 to 550 nm.

10 6. The photosensitive resin composition according to claim 5, wherein the amount of the xanthene dye is 20 to 60 parts by weight per a total of 100 parts by weight of the xanthene dye and the pirazolone azo dye.

15 7. The photosensitive resin composition according to claim 5, which further comprises a pyridone azo dye having its absorption maximum at a wavelength of 400 to 500 nm.

8. The photosensitive resin composition according to claim 7, wherein the amount of the xanthene dye is 20  
20 to 60 parts by weight, and the amount of the pyridone azo dye is 10 to 40 parts by weight per a total of 100 parts by weight of the xanthene dye and the pirazolone azo dye.

25 9. The photosensitive resin composition according to claim 5 which further comprises a photoactive compound, and an alkali-soluble resin, and wherein the amounts of the dyes, the photoactive compound,

and the alkali-soluble resin are 25 to 55 parts by weight, 25 to 55 parts by weight, and 3 to 50 parts by weight, per a total of 100 parts by weight of the dyes, photoactive compound, and alkali-soluble resin, respectively.

5 10. The photosensitive resin composition according to claim 5 which further comprises a curing agent, and wherein the amount of the curing agent is not less than 10 parts by weight and not more than 35 parts by weight per a total of 100 parts by weight of the dyes, the photoactive compound, and the alkali-soluble resin.

10 11. The photosensitive resin composition according to claim 5 which further comprises photo acid generator, curing agent, and an alkali-soluble resin, and wherein the amounts of the dyes, the photo acid generator, the curing agent, and the alkali-soluble resin are about 15 to 40 parts by weight, 0.3 to 5 parts by weight, 10 to 25 parts by weight, and 20 to 75 parts by weight, per a total of 100 parts by weight of the dyes, photoreactive acid generator, curing agent, and alkali-soluble resin, 15 20 respectively.

12. The photosensitive resin composition according to claim 7 which further comprises a photoactive compound, and an alkali-soluble resin, and wherein the amounts of the dyes, the photoactive compound, and the alkali-soluble resin are 25 to 55 parts by weight, 25 to 55 parts by weight, and 3 to 50 parts by weight, per a total of 100 parts by weight of the dyes, photoactive compound, and alkali-soluble resin, respectively. 25

13. The photosensitive resin composition according to claim 7 which further comprises a curing agent, and wherein the amount of the curing agent is not less than 10 parts by weight and not more than 35 parts by weight per a total of 100 parts by weight of the dyes, the photoactive compound, and the alkali-soluble resin.

14. The photosensitive resin composition according to claim 7 which further comprises photo acid generator, curing agent, and an alkali-soluble resin, and wherein the amounts of the dyes, the photo acid generator, the curing agent, and the alkali-soluble resin are about 15 to 40 parts by weight, 0.3 to 5 parts by weight, 10 to 25 parts by weight, and 20 to 75 parts by weight, per a total of 100 parts by weight of the dyes, photoreactive acid generator, curing agent, and alkali-soluble resin, respectively.